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SEQUENCE LISTING



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COPY

<120> NOVEL EPITHELIAL TISSUE IMAGING AGENT

<130> 068904-0204

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<150> 09/005,167

<151> 1998-01-09

<150> 08/782,480

<151> 1997-01-10

<160> 93

<170> PatentIn 3.0

<210> 1

<211> 137

<212> Protein

<213> Human

<220>

<221> misc-feature

<222> Synthetic polypeptide J chain

<400> 1

Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys Ala
1 5 10 15Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp
20 25 30Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu
35 40 45Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Pro Val Tyr His
50 55 60Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp
65 70 75 80Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser
85 90 95

Ala Thr Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala
100 105 110

Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala
115 120 125

Leu Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

<210> 2

<211> 135

<212> Protein

<213> Mouse

<220>

<221> misc-feature

<222> Synthetic polypeptide J chain

<400> 2

Gln Asp Glu Asn Glu Arg Ile Val Val Asp Asn Lys Cys Lys Cys Ala
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Arg Ile Thr Ser Arg Ile Ile Pro Ser Ala Glu Asp Pro Ser Gln Asp
20 25 30

Ile Val Glu Arg Asn Val Arg Ile Ile Val Pro Leu Asn Ser Arg Glu
35 40 45

Asn Ile Ser Asp Pro Thr Ser Pro Met Arg Thr Lys Pro Val Tyr His
50 55 60

Leu Ser Asp Leu Cys Lys Lys Cys Asp Thr Thr Glu Val Glu Leu Glu
65 70 75 80

Asp Gln Val Val Thr Ala Ser Gln Ser Asn Ile Cys Asp Ser Asp Ala
85 90 95

Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Asn Arg Val
100 105 110

Lys Leu Ser Tyr Arg Gly Gln Thr Lys Met Val Glu Thr Ala Leu Thr
115 120 125

Pro Asp Ser Cys Tyr Pro Asp
130 135

<210> 3
<211> 137
<212> Protein
<213> Rabbit

<220>
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<222> Synthetic polypeptide J chain

<400> 3

Asp	Asp	Glu	Ala	Thr	Ile	Leu	Ala	Asp	Asn	Lys	Cys	Met	Cys	Thr	Arg
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Val	Thr	Ser	Arg	Ile	Ile	Pro	Ser	Thr	Glu	Asp	Pro	Asn	Glu	Asp	Ile
				20				25					30		
Val	Glu	Arg	Asn	Ile	Arg	Ile	Val	Val	Pro	Leu	Asn	Asn	Arg	Glu	Asn
	35					40						45			
Ile	Ser	Asp	Pro	Thr	Ser	Pro	Leu	Arg	Arg	Asn	Pro	Val	Tyr	His	Leu
	50					55				60					
Ser	Asp	Val	Cys	Lys	Lys	Cys	Asp	Pro	Val	Glu	Val	Glu	Leu	Glu	Asp
	65					70			75				80		
Gln	Val	Val	Thr	Ala	Thr	Gln	Ser	Asn	Ile	Cys	Asn	Glu	Asp	Asp	Gly
					85				90				95		
Val	Pro	Glu	Thr	Cys	Tyr	Met	Tyr	Asp	Arg	Asn	Lys	Cys	Tyr	Thr	Thr
						100		105					110		
Met	Val	Pro	Leu	Arg	Tyr	His	Gly	Glu	Thr	Lys	Met	Val	Gln	Ala	Ala
						115			120			125			
Leu	Thr	Pro	Asp	Ser	Cys	Tyr	Pro	Asp							
							130	135							

<210> 4
<211> 136
<212> Protein
<213> Bovine

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 4

Glu Asp Glu Ser Thr Val Leu Val Asp Asn Lys Cys Gln Cys Val Arg
1 5 10 15

Ile Thr Ser Arg Ile Ile Arg Asp Pro Asp Asn Pro Ser Glu Asp Ile
20 25 30

Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Thr Arg Glu Asn
35 40 45

Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Glu Pro Lys Tyr Asn Leu
50 55 60

Ala Asn Leu Cys Lys Lys Cys Asp Pro Thr Glu Ile Glu Leu Asp Asn
65 70 75 80

Gln Val Phe Thr Ala Ser Gln Ser Asn Ile Cys Pro Asp Asp Asp Tyr
85 90 95

Ser Glu Thr Cys Tyr Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Thr Leu
100 105 110

Val Pro Ile Thr His Arg Gly Val Thr Arg Met Val Lys Ala Thr Leu
115 120 125

Thr Pro Asp Ser Cys Tyr Pro Asp
130 135

<210> 5
<211> 119
<212> Protein
<213> Bull frog

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 5

Glu Gln Glu Tyr Ile Leu Ala Asn Asn Lys Cys Lys Cys Val Lys Ile
1 5 10 15

Ser Ser Arg Phe Val Pro Ser Thr Glu Arg Pro Gly Glu Glu Ile Leu
20 25 30

Glu Arg Asn Ile Gln Ile Thr Ile Pro Thr Ser Ser Arg Met Xaa Ile
35 40 45

Ser Asp Pro Tyr Ser Pro Leu Arg Thr Gln Pro Val Tyr Asn Leu Trp
50 55 60

Asp Ile Cys Gln Lys Cys Asp Pro Val Gln Leu Glu Ile Gly Gly Ile
65 70 75 80

Pro Val Leu Ala Ser Gln Pro Xaa Xaa Ser Xaa Pro Asp Asp Glu Cys
85 90 95

Tyx Thr Thr Glu Val Asn Phe Lys Lys Lys Val Pro Leu Thr Pro Asp
100 105 110

Ser Cys Tyr Glu Tyr Ser Glu
115

<210> 6
<211> 129
<212> Protein
<213> Earthworm

<220>
<221> misc-feature
<222> Synthetic polypeptide J chain

<400> 6

Asn Lys Cys Met Cys Thr Arg Val Thr Ala Arg Ile Arg Gly Thr Arg
1 5 10 15

Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Tyr Ile Arg Ile Asn Val
20 25 30

Pro Leu Lys Asn Arg Gly Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg
35 40 45

Asn Gln Pro Val Tyr His Leu Ser Pro Ser Cys Lys Lys Cys Asp Pro
50 55 60

Tyr Glu Asp Gly Val Val Thr Ala Thr Glu Thr Asn Ile Cys Tyr Pro
65 70 75 80

Asp Gln Gly Val Pro Gln Ser Cys Arg Asp Tyr Cys Pro Glu Leu Asp
85 90 95

Arg Asn Lys Cys Tyr Thr Val Leu Val Pro Pro Gly Tyr Thr Gly Glu
100 105 110

Thr Lys Met Val Gln Asn Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
115 120 125

<210> 7

<211> 421

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (1)..(414)

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Synthetic polypeptide including target of "full length" TM cDNA

<400> 7

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Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15

GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC TCA GAG GAC CCA AAT GAA 96
Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
20 25 30

GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC GTC CCA CTG AAT AAC CGG 144
Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
35 40 45

GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG CGC ACA CGC TTC GTA TAC 192
Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
50 55 60

CAC CTG TCA GAT CTG TGT AAG AAG TGT GAT CCA ACA GAG GTA GAG CTG 240
His Leu Ser Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu
65 70 75 80

GAC AAT CAG ATA GTC ACT GCG ACT CAA AGC AAC ATT TGC GAT GAG GAC 288
Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp
85 90 95

AGC GCT ACA GAA ACC TGC AGC ACC TAC GAT AGG AAC AAA TGC TAC ACG 336
 Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr
 100 105 110

GCC GTG GTT CCG CTC GTG TAT GGT GGA GAG ACA AAA ATG GTG GAA ACT 384
 Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr
 115 120 125

GCC CTT ACG CCC GAT GCA TGC TAT CCG GAC TGAATTG 421
Ala Leu Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

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<210> 8
<211> 215
<212> DNA
<213> Artificial Sequence
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<220>
<221> CDS
<222> (1) .. (213)

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of Core TM
cDNA

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<400> 8
GAT CAG AAG TGC AAG TGT GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
   1          5          10         15

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TCA GAG GAC CCA AAT GAA GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC 96
 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 20 . 25 . 30

GTC CCA CTG AAT AAC CGG GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG 144
 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 35 40 45

CGC ACA CGC TTC GTA TAC CAC CTG TCA GAT CTG TGT AAG AAG GAT GAG
 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
 50 55 60

GAC AGC GCT ACA GAA ACC TGC TG 215
Asp Ser Ala Thr Glu Thr Cys
65 70

<210> 9
<211> 140
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of C2 fragment

<400> 9
CTAGAACAT CCGTAGCTCA GAGGACCAA ATGAAGATAT AGTCGAAACGT AACATCCGTA 60
TCATCGTCCC ACTGAATAAC CGGGAGAATA TCTCAGATCC TACAAGTCCG TTGCGCACAC 120
GCTTCGTATA CCACCTGTCA 140

<210> 10
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of D1.1 fragment

<400> 10
GATCAGAAAGT GCAAGTGTGC TCGTATTACT T 31

<210> 11
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1)...(42)

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of L3D fragment

<400> 11
GAT CTG TGT AAG AAG GAT GAA GAT TCC GCT ACA GAA ACC TGC 42
Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
75 80 85

TG 44

<210> 12
 <211> 109
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of T4 fragment

<400> 12
 GCACCTACCA TAGGAACAAA TGCTACACGG CCGTGGTTCC GCTCGTGTAT GGTGGAGAGA 60

CAAAAATGGT GGAAACTGCC CTTACGCCCC ATGCATGCTA CCCTGACTG 109

<210> 13
 <211> 286
 <212> DNA
 <213> Artificial Sequence

<220>
 <221> CDS
 <222> (1)..(282)

<220>
 <221> misc-feature
 <222> Description of Artificial Sequence: Nucleotide sequence of Core TM cDNA using L3

<400> 13
 GAC AAC AAG TGC AAG TGT GCT CGT ATT ACT TCT AGA ATC ATC CGT AGC 48
 Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
 15 20 25 30

TCA GAG GAC CCA AAT GAA GAT ATA GTC GAA CGT AAC ATC CGT ATC ATC 96
 Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
 35 40 45

GTC CCA CTG AAT AAC CGG GAG AAT ATC TCA GAT CCT ACA AGT CCG TTG 144
 Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
 50 55 60

CGC ACA CGC TTC GTA TAC CAC CTG TCA GAT CTG TGT AAG AAG TGT GAT 192
 Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
 65 70 75

CCA ACA GAG GTA GAG CTG GAC AAT CAG ATA GTC ACT GCG ACT CAA AGC 240
 Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
 80 85 90

AAC ATT TGC GAT GAG GAC AGC GCT ACA GAA ACC TGC TAC TGA
 Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr *
 95 100 105

282

ATTC 286

<210> 14
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<222> (1) .. (105)

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of L3 fragment

<400> 14
GAT CTG TGT AAG AAG TGT GAT CCA ACA GAG GTA GAG CTG GAC AAT CAG 48
Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
95 100 105 110

ATA GTC ACT GCG ACT CAA AGC AAC ATT TGC GAT GAG GAC AGC GCT ACA 96
 Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
 115 120 125

CTT TGG ACG 105
Leu Trp Thr

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<210> 15
<211> 61
<212> DNA
<213> Artificial Sequence
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<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of D1 fragment

<400> 15 GATCAGGAAG ATGAAACGTAT TGTTCTGGTT GACAACAAAGT GCAAGTGTGC TCGTATTACT 60

61

<210> 16
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nucleotide sequence of TpS2

<400> 16
GCGATGACGA CGATAAGGCC CAAACGGAGA CCTGTACTGT TGCGCCTCGT GAACGGCAAA 60
ACTGC GGATT CCCGGAAAGTA ACACCCTCTC AGTGGCCTAA TAAAGGCTGC TGTTTGATG 120
ACACGGTACG GGGCGTTCCG TGGTGCTTCT ACCCCAATAC AATTGACGTT CCGCCTGAAG 180
AAGAGTGCAG GCCGTAAG 198

<210> 17
<211> 136
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of "full length" TM cDNA

<400> 17
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
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Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu
20 25 30

Asp Ile Val Glu Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg
35 40 45

Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr
50 55 60

His Leu Ser Asp Leu Cys Lys Cys Asp Pro Thr Glu Val Glu Leu
65 70 75 80

Asp Asn Gln Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp
85 90 95

Ser Ala Thr Glu Thr Cys Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr
100 105 110

Ala Val Val Pro Leu Val Tyr Gly Gly Glu Thr Lys Met Val Glu Thr
115 120 125

Ala L u Thr Pro Asp Ala Cys Tyr Pro Asp
130 135

<210> 18
<211> 71
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of Core TM cDNA

<400> 18
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
1 5 10 15

Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile
20 25 30

Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45

Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Asp Glu
50 55 60

Asp Ser Ala Thr Glu Thr Cys
65 70

<210> 19
<211> 49
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of C2 fragment

<400> 19
Ser Arg Ile Ile Arg Ser Ser Glu Asp Pro Asn Glu Asp Ile Val Glu
1 5 10 15

Arg Asn Ile Arg Ile Ile Val Pro Leu Asn Asn Arg Glu Asn Ile Ser
20 25 30

Asp Pro Thr Ser Pro Leu Arg Thr Arg Phe Val Tyr His Leu Ser Asp
35 40 45

Leu

<210> 20
<211> 12
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of D 1.1 fragment

<400> 20
Asp Gln Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg
1 5 10

<210> 21
<211> 14
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of L3D fragment

<400> 21
Asp Leu Cys Lys Lys Asp Glu Asp Ser Ala Thr Glu Thr Cys
1 5 10

<210> 22
<211> 36
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of T4 fragment

<400> 22
Ser Thr Tyr Asp Arg Asn Lys Cys Tyr Thr Ala Val Val Pro Leu Val
1 5 10 15

Tyr Gly Gly Glu Thr Lys Met Val Glu Thr Ala Leu Thr Pro Asp Ala
20 25 30

Cys Tyr Pro Asp
35

23
99
Protein
Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Synthetic polypeptide of Core TM cDNA using L3

<400> 23

Asp Asn Lys Cys Lys Cys Ala Arg Ile Thr Ser Arg Ile Ile Arg Ser
1 5 10 15

Ser Glu Asp Pro Asn Glu Asp Ile Val Glu Arg Asn Ile Arg Ile Ile
20 25 30

Val Pro Leu Asn Asn Arg Glu Asn Ile Ser Asp Pro Thr Ser Pro Leu
35 40 45

Arg Thr Arg Phe Val Tyr His Leu Ser Asp Leu Cys Lys Lys Cys Asp
50 55 60

Pro Thr Glu Val Glu Leu Asp Asn Gln Ile Val Thr Ala Thr Gln Ser
65 70 75 80

Asn Ile Cys Asp Glu Asp Ser Ala Thr Glu Thr Cys Tyr
85 90

<210> 24

<211> 35

<212> Protein

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Synthetic polypeptide of L3 fragment

<400> 24

Asp Leu Cys Lys Lys Cys Asp Pro Thr Glu Val Glu Leu Asp Asn Gln
1 5 10 15

Ile Val Thr Ala Thr Gln Ser Asn Ile Cys Asp Glu Asp Ser Ala Thr
20 25 30

Leu Trp Thr
35

<210> 25
<211> 22
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: synthetic polypeptide of D1 fragment

<400> 25
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys Cys Lys Cys
1 5 10 15

Ala Arg Ile Thr Ser Arg
20

<210> 26
<211> 66
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide of Tps2

<400> 26
Cys Ser Asp Asp Asp Asp Lys Ala Gln Thr Glu Thr Cys Thr Val Ala
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Pro Arg Glu Arg Gln Asn Cys Gly Phe Pro Gly Val Thr Pro Ser Gln
20 25 30

Cys Ala Asn Lys Gly Cys Cys Phe Asp Asp Thr Val Arg Gly Val Pro
35 40 45

Trp Cys Phe Tyr Pro Asn Thr Ile Asp Val Pro Pro Glu Glu Cys
50 55 60

<210> 27
<211> 421
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of "full length" TM cDNA

<400> 27
CTAGTCCTTC TACTTGCATA ACAAGACCAA CTGTTGTTCA CGTTCACACCG AGCATAATGA 60

AGATCTTAGT AGGCATCGAG TCTCCTGGGT TTACTTCTAT ATCAGCTTGC ATTGTAGGCA	120
TAGTAGCAGG GTGACTTATT GGCCCTCTTA TAGAGTCTAG GATGTTCAAGG CAACGCGTGT	180
GCGAAGCATA TGGTGGACAG TCTAGACACA TTCTTCACAC TAGGTTGTCT CCATCTCGAC	240
CTGTTAGTCT ATCAGTGACG CTGAGTTCG TTGTAAACGC TACTCCTGTC GCGATGTCTT	300
TGGACGTCGT GGATGCTATC CTTGTTIACG ATGTGCCGGC ACCAAGGCAGA GCACATACCA	360
CCTCTCTGTT TTTACCACCT TTGACGGAA TGCGGGCTAC GTACGATAGG CCTGACTTAA	420
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 <210> 28	
<211> 219	
<212> DNA	
<213> Artificial Sequence	
 <220>	
<221> misc-feature	
<222> Description of Artificial Sequence: Complementary nucleotide sequence of Core TM cDNA	
 <400> 28	
CTAGTCTTCA CGTTCACACG AGCATAATGA AGATCTTAGT AGGCATCGAG TCTCCTGGGT	60
TTACTTCTAT ATCAGCTTGC ATTGTAGGCA TAGTAGCAGG GTGACTTATT GGCCCTCTTA	120
TAGAGTCTAG GATGTTCAAGG CAACGCGTGT GCGAAGCATA TGGTGGACAG TCTAGACACA	180
TTCTTCTTAC TCCTGTCCGG ATGTCTTGG ACGACTTAA	219
 <210> 29	
<211> 140	
<212> DNA	
<213> Artificial Sequence	
 <220>	
<221> misc-feature	
<222> Description of Artificial Sequence: Complementary nucleotide sequence of C2 fragment	
 <400> 29	
TTAGTAGGCA TCGAGTCTCC TGGGTTTACT TCTATATCAG CTTGCATTGT AGGCATAGTA	60
GCAGGGTGAC TTATTGGCCC TCTTATAGAG TCTAGGATGT TCAGGCAACG CGTGTGCGAA	120
GCATATGGTG GACAGTCTAG	140

<210> 30
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of D 1.1 fragment

<400> 30
TCTTCACGTT CACACGAGCA TAATGAAGAT C 31

<210> 31
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Complementary nucleotide sequence of L3D fragment

<400> 31
ACACATTCTT CCTACTTCTC AGGCGATGTC TTTGGACGAC TTAA 44

<210> 32
<211> 117
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of T4 fragment

<400> 32
ACGTCGTGGA TGCTATCCTT GTTTACGATG TGCCGGCACCA AAGGCGAGCA CATAACCACCT 60
CTCTGTTTT ACCACCTTG ACGGGAATGC GGGCTACGTA CGATGGACT GACTCAA 117

<210> 33
<211> 282
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of Core TM cDNA using L3

<400> 33
CTGTTGTTCA CGTTCACACG AGCATAATGA AGATCTTAGT AGGCATCGAG TCTCCTGGGT 60
TTACITCTAT ATCAGCTTGC ATTGTAGGCA TAGTAGCAGG GTGACTTATT GGCCCTCTTA 120
TAGAGTCTAG GATGTTCAAGG CAACGCGTGT GCGAAGCATA TGGTGGACAG TCTAGACACA 180
TTCTTCACAC TAGGTTGTCT CCATCTCGAC CTGTTAGTCT ATCAGTGACG CTGAGTTTCG 240
TTGTAAACGC TACTCCTGTC GCGATGTCTT TGGACCGATGA CT 282

<210> 34
<211> 105
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of L3 fragment

<400> 34
GATCTGTGTA AGAAAGTGTGA TCCAACAGAG GTAGAGCTGG ACAATCAGAT AGTCACTGCG 60
ACTCAAAGCA ACATTTGCGA TGAGGACAGC GCTACACTTT GGACG 105

<210> 35
<211> 65
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of D1 fragment

<400> 35
CTAGTCCTTC TACTTGCATA ACAAGACCAA CTGTTGTTCA CGTTCACACG AGCATAATGA 60
AGATC 65

<210> 36
<211> 206
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Complementary nucleotide sequence of Tps2

<400> 36
ACTTCGCTAC TGCTGCTATT CCGGGTTTGC CTCTGGACAT GACAACGCGG AGCACTTGCC 60
GTTTIGACGC CTAAGGGCCT TCATTGTGGG AGAGTCACGC GATTATTTC GACGACAAAA 120
CTACTGTGCC ATGCCCGCA AGGCACCACG AAGATGGGGT TATGTTAACT GCAAGGCGGA 180
CTTCTTCTCA CGCTCGGCAT TCTTAA 206

<210> 37
<211> 13
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Domain 1, 13 amino peptide with substantial β -sheet character

<400> 37
Asp Gln Glu Asp Glu Arg Ile Val Leu Val Asp Asn Lys
1 5 10

<210> 38
<211> 7
<212> Protein
<213> Tobacco etch virus

<220>
<221> misc-feature
<222> Peptide recognized by the tobacco etch virus protease Nia

<400> 38
Glu Asn Leu Tyr Phe Gln Ser
1 5

>;
<210> 39
<211> 11
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide residues from pro-cathepsin E

<400> 39
Lys Ala His Lys Val Asp Met Val Gln Tyr Thr
1 5 10

<210> 40
<211> 4
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Linker from procathepsin

<400> 40
Val Gln Tyr Thr
1

<210> 41
<211> 6
<212> Protein
<213> Human

<220>
<221> misc-feature
<222> Linker from polyimmunoglobulin receptor

<400> 41
Glu Lys Ala Val Ala Asp
1 5

<210> 42
<211> 131
<212> DNA
<213> Artificial Sequence

<220> CDS
<221> 1..78
<222> Description of Artificial Sequence: Nucleotide sequence of secretion signal from pMelBac

<400> 42
ATG AAA TTC TTA GTC AAC GTT GCC CTT TTT ATG GTC GTA TAC ATT TCT 48
Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
40 45 50

TAC ATC TAT GCG GAT CCG AGC TCG AGT GCT CTAGATCTGC AGCTGGTACC 98
Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
55 60

ATGGAATTCTG AAGCTTGGAG TCGACTCTGC TGA 131

<210> 43
<211> 26
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic polypeptide sequence of secretion signal from pMelBac

<400> 43
Met Lys Phe Leu Val Asn Val Ala Leu Phe Met Val Val Tyr Ile Ser
1 5 10 15
Tyr Ile Tyr Ala Asp Pro Ser Ser Ser Ala
20 25

<210> 44
<211> 4
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Endomembrane retention signal

<400> 44
Lys Asp Glu Leu
1

<210> 45

<211> 16

<212> Protein

<213> Human

<220>

<221> misc-feature

<222> Residues 585-600 of polyimmunoglobulin receptor

<400> 45

Ala Ile Gln Asp Pro Arg Leu Phe Ala Glu Glu Lys Ala Val Ala Asp

1

5

10

15

<210> 46

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 1

<400> 46

GATCAGGAAG ATGAAACGTAT TGTTCTGGTT GACAACAAAGT GCAAGTGTGC TCGTATTACT

60

T

61

<210> 47

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 2

<400> 47

CTAGAACGTA TACGAGCACA CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC

60

T

61

<210> 48

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 1.1

<400> 48

GATCAGAAGT GCAAGTGTGC TCGTATTACT

31

<210> 49

<211> 6

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 1.2

<400> 49

CTAGAAAGTAA TACGAGCACA CTTGCACCTTC T

31

<210> 50

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 1.2ser

<400> 50

GATCAGGAAG ATGAAACGTAT TGTTCTGGTT GACAACAAAGT GCAAGTCCGC TCGTATTACT

60

T

61

<210> 51

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 2.2ser

<400> 51

CTAGAAAGTAA TACGAGCGGA CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC

60

T

61

<210> 52
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 1.2val

<400> 52
GATCAGGAAG ATGAACGTAT TGTTCTGGTT GACAACAAGT GCAAGGTTGC TCGTATTACT

60

T

61

<210> 53
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 2.2val

<400> 53
CTAGAAGTAA TACGAGCAAC CTTGCACTTG TTGTCAACCA GAACAATACG TTCATCTTCC

60

T

61

<210> 54
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 3

<400> 54
CTAGAACAT CCGTAGCTCA GAGGACCCAA ATGAAGATAT AGTCGAA

47

<210> 55
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 4

<400> 55
GATAACGGATG TTACGTTCGA CTATATCTTC ATTTGGGTCC TCTGAGCTAC GGATGATT

58

<210> 56
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 5

<400> 56
CGTAACATCC GTATCATCGT CCCACTGAAT AACCGGGAGA ATATCTCAG

49

<210> 57
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 5.1dg

<400> 57
CGTAACATCC GTATCATCGT CCCACTGAAT AACCGGGAGC ACATCTCAG

49

<210> 58
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 6

<400> 58
ACGGACTTGT AGGATCTGAG ATATTCTCCC GGTTATTCAAG TGGGACGAT

49

<210> 59
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 6.1dg

<400> 59
ACGGACTTGT AGGATCTGAG ATGTGCTCCC GGTTATTCAAG TGGGACGAT

49

<210> 60

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 7

<400> 60

ATCCTACAAG TCCGTTGCGC ACACGCTTCG TATACCACCT GTCA

44

<210> 61

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 8

<400> 61

GATCTGACAG GTGGTATAAG AAGCGTGTGC GCA

33

<210> 62

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 9

<400> 62

GATCTGTGTA AGAAGTGTGA TCCAACAGAG GTAGAGCTGG ACAATCAGAT AGTCACTGCA

60

<210> 63

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<221> misc-feature

<222> Description of Artificial Sequence: Oligonucleotide 9L3Δ

<400> 63

GATCTGTGTA AGAAGGATGA GGACAGCGCT ACAGAAACCT GCTG

44

<210> 64
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10L3Δ

<400> 64
AATTCAAGCAG GTTTCTGTAG CGCTGTCCTC ATCCCTTCTTA CACA

44

<210> 65
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9L3ΔKDEL

<400> 65
GATCTGTGTA AGAAGGATGA GGACAGCGCT ACAGAAACCT GCTACGAGAA GGATGAGCTG

60

TG

62

<210> 66
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10L3ΔKDEL

<400> 66
AATTCACAGC TCATCCTTCG CGTCGCAGGT TTCTGTAGCG CTGTCCTCAT CCTTCTTACA

60

CA

62

<210> 67
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9.2Δ3

<400> 67
GATCTGTGTA AGAAGTCTGA TATCGATGAA GATTCCGCTA CAGAAACCTG CAGCACATG

59

<210> 68
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10.2Δ3

<400> 68
AATTCATGTG CTGCAGGTTT CTGTAGCGGA ATCTTCATCG ATATCAGACT TCTTACACA

59

<210> 69
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9.3Δ3/ser68

<400> 69

GATCTGTCTA AGAACGTCTGA TATCGATGAA GATTACAGAT TCTTCAGACT ATAGCTACTT

60

CTAA

64

<210> 70
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10.3Δ3/ser68

<400> 70

AATCTTCATC GATATCAGAC TTCTTAGACA

30

<210> 71
<211> 64
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 9.3Δ3/val68

<400> 71
GATCTGGTTA AGAAAGTCTGA TATCGATGAA GATTACCAAT TCTTCAGACT ATAGCTACTT 60
CTAA 64

<210> 72
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10.3Δ3/val68

<400> 72
AATCTTCATC GATATCAGAC TTCTTAACCA 30

<210> 73
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 10

<400> 73
ATTGTCCAGC TCTACCTCTG TTGGATCACAC CTTCTTACAC A 41

<210> 74
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 11

<400> 74
ACTCAAAGCA ACATTTGCCGA TGAGGACAGC GCTACAGAAA CCTGCA 46

<210> 75
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 12

<400> 75
GGTTCTGTA GCGCTCTGCT CATCGCAAAT GTTGCTTTGA GTCGCAGTGA CTATCTG

57

<210> 76
<211> 59
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 13

<400> 76
GCACCTACGA TAGGAACAAA TGCTACACGG CCGTGTTCC GCTCGTGTAT GGTGGAGAG

59

<210> 77
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 14

<400> 77
GAGCGGAACC ACGGCCGTGT AGCATTTGTT CCTATCGTAG GTGCTGCA

48

<210> 78
<211> 50
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 15

<400> 78
ACAAAAATGG TGGAAACTGC CCTTACGCC GATGCATGCT ATCCGGACTG

50

<210> 79
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 16

<400> 79
AATTCAAGTCC GGATAGCATG CATCGGGCGT AAGGGCAGTT TCCACCATTT TTGTCTCTCC 60

ACCATAACAC 69

<210> 80
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 15KDEL

<400> 80
ACAAAAAAATGG TGGAAACTGC CCTTACGCC GATGCATGCT ATCCGGACAA GGATGAATTG 60

TG 62

<210> 81
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide 16KDEL

<400> 81
AATTCAACAAT TCATCCTTGT CCGGATAGCA TGCATCGGGC GTAAGGGCAG TTTCCACCAT 60

TTTTGTCTCT CCACCATAACA C 81

<210> 82
<211> 88
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide P1

<400> 82
GATCAGGTCTG CTGCCATCCA AGACCCGAGG CTGTTGCCG AAGAGAAGGC CGTCGCTGAC 60
TCCAAGTGCA AGTGTGCTCG TATTACTT 88

<210> 83
<211> 88
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide P2

<400> 83
CTAGAAGTAA TACGAGCACA CTTGCACTTG GAGTCAGCGA CGGCCTTCCTC TTCGGCGAAC 60
AGCCTCGGGT CTTGGATGGC AGCGACCT 88

<210> 84
<211> 10
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nuclear targeting sequence 1

<400> 84
Cys Ala Ala Pro Lys Lys Lys Arg Lys Val
1 5 10

<210> 85
<211> 22
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Nuclear targeting sequence 2

<400> 85
Cys Ala Ala Lys Arg Pro Pro Ala Ala Ile Lys Lys Ala Ala Ala Gly
1 5 10 15

Gln Ala Lys Lys Lys Lys
20

<210> 86
<211> 4
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: HDEL linker sequence for intracellular targeting

<400> 86
His Asp Glu Leu
1

<210> 87
<211> 77
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp1

<400> 87
GCGATGACGA CGATAAGGCC CAAACGGAGA CCTGTACTGT TGCGCCTCGT GAACGGAAA 60
ACTGCGGATT CCCGGAA 77

<210> 88
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp2

<400> 88

GTTTGCCGT TCACGAGGCG CAACAGTACA GGTCTCCGTT TGGGCCTTAT CGTCGTCATC

60

GCTTCA

66

<210> 89
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp3

<400> 89

GTAACACCCCT CTCAGTGCAC TAATAAAGGC TGCTGTTTG ATGACACGGT ACGGGGCGTT

60

CCGTGGTGCT TC

72

<210> 90
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp4

<400> 90

GCCCCGTACC GTGTCATCAA AACAGCAGCC TTTATTAGCG CACTGAGAGG GTGTTACTTC

60

CGGGAATCCG CA

72

<210> 91
<211> 49
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp5

<400> 91
TACCCCAATA CAATTGACGT TCCGCCTGAA GAAGAGTGCG AGCCGTAAG

49

<210> 92
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Oligonucleotide Tp6

<400> 92
AATTCTTACG GCTCGCACTC TTCTTCAGGC GGCAAGTCAA TTGTATTGGG GTAGAACAC

60

CACGGAAC

68

<210> 93
<211> 13
<212> Protein
<213> Artificial Sequence

<220>
<221> misc-feature
<222> Description of Artificial Sequence: Synthetic peptide linker

<400> 93
Val Ala Val Gln Ser Ala Gly Thr Pro Ala Ser Gly Ser
1 5 10